Jay Johnson - jay.p.h.johnson@gmail.com

Professional Website: https://jaypjohnson.com/ GitHub: https://github.com/jay-johnson

Summary

Software Architect with deep understanding of trends and expertise in core, complex technologies. Over 10 years of experience in software architecture, design and implementation of large distributed, real-time systems across a variety of environments.

- An Inventor of **U.S. Patent 9,342,299** for "Deployment optimization for activation of scaled applications in a multi-tenant platform-as-a-service (PaaS) system".
- CTO of multiple subscription-based startups launching consumer products in the Fintech space.
- Created a machine learning API (https://github.com/jay-johnson/sci-pype) to compare algorithm performance for forecasting ETF price movements. Automated forecast and profitability analysis with email delivery including price forecast images to confirm predictive accuracy before trading.
- Creator of investment technologies: backtesting engine, forward testing engine, price prediction playbook, option price calculator, spread profitability analysis, and an algorithmic genetic engine.
- Architected and trading with distributed real-time systems: news event pipeline, intraday and compression pricing engine, machine learning price forecasting, multiple notification and delivery systems (slack and email), and a screener tracking system.
- Created a data generation engine for building big data csv training datasets that are over 100 GB.
- Performed feature engineering to prepare datasets for regression and classification automation.
- Utilized compression to cache large machine learning models for live price predictions and continued data exploration using Jupyter, Docker, Redis, and S3 with fellow distributed team members.
- Third-party integrations: Finviz, Yahoo Finance, Google Finance, TD Ameritrade, and the SEC.
- Extensive experience building high performance distributed systems at scale through services and message queues (https://github.com/GetLevvel/testing-rabbitmq-clustering-with-docker and https://github.com/GetLevvel/message-simulator).
- Strong leadership qualities with experience in Agile project and resource planning, requirements gathering and prioritization, client interaction, due-diligence, cost analysis and estimations.

Skills Summary

Data Science: Scikit-learn, XGB, GBM, Random Forests, Ensemble Algorithms, Pandas, Seaborn, Jupyter, IPython notebooks, Machine Learning, S3 with AWS Lambda, AUROC, Regression, Classification, Confusion Matrix, Algorithm tuning, Feature Engineering

Programming: Python, Ruby, C/C++, Bash, Shell scripting, git, GitHub, ssh, nginx, Apache, Django, Elasticsearch, Flask, REST APIs, Redis, SQLAlchemy, ActiveModel, ORM, gdb, Valgrind, Jenkins, Hudson, Cucumber, SQL, MySQL, PostgreSQL, Oracle, PL/SQL, SQLite, Visual Studio .Net, JavaScript, jQuery, Bootstrap, JSON, HTML, AJAX, HTTP

Clouds: Amazon Web Services (AWS), VPC, EC2, RDS, SES, Route 53, IAMs, AMIs, Boto, Instance Management, Red Hat OpenShift, OpenStack, Eucalyptus

Environments: Linux, Fedora, Docker, Red Hat, CentOS, Ubuntu, Amazon Linux, Ubuntu, Windows, Mac OS X, VMs, Qt, Mentor Linux, Internet of Things

Practices: Microservices Architecture, Agile/Scrum, Test Driven Development, Continuous Integration, Continuous Deployment, Messaging, Write-through caching, Remote Team management, Data Engineering, Feature Engineering, Predictive Analysis

Work Experience

Levvel, NC, 2015-Present - Principal Consultant

- Leading and mentoring teams delivering solutions to clients by leveraging expertise in enterprise architecture, techniques and practices.
- DevOps evangelist and believer that it reduces time to build and deploy features faster.
- Responsible for executing on projects anywhere on the stack and focused on turnkey solutions.

- Working with clients to ensure projects, requirements, timelines, and deliverables add business value.
- Establishing thought leadership through best practices, implementation, risk mitigation, deployment, adoption, mentorship, training, and success.

Environment: Python, Django, Redis, ActiveMQ, RabbitMQ, ZeroMQ, message queueing, caching, Docker, Elasticsearch, nginx, haproxy, AWS, VPC, EC2, RDS, OpenStack, vSphere, vCenter
Tools Used: GitHub, Agile Methodology (Scrum), Trello, DevOps, CI/CD (Jenkins/Travis), vim, Virtualbox

eNewsPulse, VA, 2014-2015 - CTO and Founder - https://enewspulse.com/

- Built, launched and supported a cloud platform focused on business to consumer sales where investors can quickly capitalize off news that moves a stock's price (B2C).
- Responsible for full stack, technical architecture, product creation, vision, execution, marketing, and growing a customer base using Stripe and deployed on an Amazon Web Services (AWS) VPC.
- Built a custom search engine and a news datamining pipeline for researching news-based investments and to pivot into new business use cases.

Environment: Python, Django, Redis, nginx, message queueing, caching, AWS, VPC, EC2, RDS
Tools Used: GitHub, Agile Methodology (Scrum), Trello, TDD (unittest), CI/CD, boto, vim, Virtualbox

Red Hat, VA, 2010-2014 - Senior Consultant

- Engaging and proven trusted advisor leading teams delivering client solutions by leveraging expertise in enterprise architecture, techniques, and practices.
- Architect on the ITCM platform and services for US railroads as part of the Positive Train Control (PTC) Federal initiative. Designed, implemented, tested, developed, and launched ITCM deployments focused on 99.999% high availability uptime with the goal of human safety as a mission objective.
- Designed, built and managed a testbed of over 200 VMs for ITCM testing automation.
- Cloud architect focused on adoption of Red Hat's OpenShift on premise cloud platform at PayPal.
- August 2013 - Received Red Hat Services Star Award

Environment: Ruby, C++, Rails, Python, Node.js, MRG-M, ActiveMQ, AMQP, RabbitMQ, message queueing, OpenShift, OpenStack, AWS, EC2, Mongo, Spring Batch, Spring Integration
Tools Used: GitHub, Agile Methodology (Scrum), Jira Greenhopper, Redmine, Trello, Pivotal, Jenkins, Hudson, Cucumber (BDD), unittest (TDD), CI/CD, vim, Virtualbox, Office, MS Project, Sharepoint

Sony Online Entertainment (now Daybreak Game Company), 2008-2010 - Software Engineer

- Software engineering for the Platform team developing, enhancing, and supporting the accounting, ecommerce, fulfillment, game sessions, in-game chat, web teams, subscription, billing, payments, Playstation integration platform, PayPal, Facebook, Chase Paymentech, and other external payment and fulfillment platforms.
- Worked to build any other features required for supporting more than 12 game teams using our platform to charge customers for recurring monthly subscriptions to play any SOE PC game.

Environment: C/C++, Visual Studio .Net Development, deployment on multiple Linux distributions, Massive Multiplayer Games, real-time processing, high availability, PCI-compliance
Tools Used: Visual Studio .Net, SOAP UI, Rally, Agile Methodology (Scrum), Dev tracker (bug tracking)

4D Neuroimaging (no longer in business), 2006-2008 - Software Engineer
- Software engineering for a Biotech company in San Diego.

Environment: C/C++, Mac OS X (intel chipset), Linux, Solaris, X Windows, bash and shell scripting
Tools Used: FDA Validation and Verification including documentation, testing, development, deployment

Education

University of Virginia Tech, Blacksburg, Virginia
Bachelor's degree in Computer Science with a Math Minor